What is claimed is:

- 1. A conjugate consisting of a NK4 molecule and a polyethylene glycol group having a molecular weight of from about 20 to about 40 kDa.
- 2. The conjugate according to claim 1, wherein said polyethylene glycol group has the formula

$$-CO - (CH2)X - (OCH2CH2)mOR$$

and said –CO group forms an amide bond with one of the amino groups of the N-terminal fragment of said NK4, wherein

X is 2 or 3;

m is from about 450 to about 950;

R is (C_1-C_6) alkyl.

3. The conjugate according to claim 1, wherein said polyethylene glycol group has the formula

and said -CO group forms an amide bond with one of the amino groups of the N-terminal fragment of said NK4 molecule,

wherein

y is from 1 to 10;

n and p together are from about 450 to about 950; and

R is (C_1-C_6) alkyl.

- 4. The conjugate according to claim 1, wherein the polyethylene glycol group has a molecular weight of from about 30 to about 40 kDa.
- 5. The conjugate according to claim 1, wherein said polyethylene glycol group is selected from monomethoxy polyethylene glycol groups.
- 6. The conjugate according to claim 1, wherein the polyethylene glycol group is selected from the group of linear PEG chains and branched PEG chains.

- 7. The conjugate according to claim 6, wherein the branched PEG chain consists of two PEG chains and said branched PEG chain is attached to the NK4 molecule by a primary amino group of lysine of the NK4 molecule.
- 8. The conjugate according to claim 1, wherein the polyethylene glycol group is attached to a group selected from the lysine side chains and the N-terminal amino group of the NK4 molecule.
- 9. A method for the treatment of cancer, comprising administering to a patient in need thereof a pharmaceutical composition comprising conjugates of NK4 molecules monoPEGylated with polyethylene glycol groups that have a molecular weight of from about 20 to about 40 kDa, wherein said conjugates are administered in an amount of from 1 to 30 mg monoPEGylated NK4 per kg per day.
- 10. The method according to claim 9, wherein said monoPEGylated conjugates comprise at least 90% of the total of pegylated NK4 molecules and unpegylated NK4 molecules in the pharmaceutical composition.
- 11. The method according to claim 9, wherein said monoPEGylated conjugates comprise conjugates in which the polyethylene glycol groups are attached to more than one group selected from the lysine side chains of NK4 molecules and conjugates in which the polyethylene glycol groups are attached to the N-terminal amino groups of NK4 molecules.
- 12. A pharmaceutical composition comprising conjugates of claim 1 and at least one pharmaceutically acceptable carrier.
- 13. A composition comprising conjugates of NK4 monoPEGylated with polyethylene glycol groups that have a molecular weight of from about 20 to about 40 kDa, wherein the conjugates comprise conjugates in which the polyethylene glycol groups are attached to groups selected from the lysine side chains of NK4 molecules and conjugates in which the polyethylene glycol groups are attached to the N-terminal amino groups of NK4 molecules.

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- 14. A composition comprising conjugates of NK4 monoPEGylated with polyethylene glycol groups that have a molecular weight of from about 20 to about 40 KDa, wherein said monoPEGylated conjugates comprise at least 90% of the total of pegylated NK4 molecules and unpegylated NK4 molecules in the composition.
- 15. The composition according to claim 14, wherein said monoPEGylated conjugates comprise at least 92% of the total of pegylated NK4 molecules and unpegylated NK4 molecules in the composition.

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